

Droplet Precautions Are Adequate for Protection of Healthcare Workers Managing Mechanically Ventilated Patients with Severe Influenza

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Background/Objective

Influenza is one of the principal public health threats worldwide. Despite the enormous burden of the disease, there are surprisingly few data on the transmission of influenza virus to healthcare workers (HCWs) in the intensive care unit (ICU). We report an observational study on the transmission of influenza in patients admitted to ICU to the HCWs using droplet precautions.

Method

Upon laboratory confirmation of an influenza infection in an ICU patient, attending HCWs were invited to participate in the study. Consenting HCWs provided samples for serology by haemagglutination inhibition assay as well as nasal swabs and hand swabs for influenza polymerase chain reaction (PCR) by previously described methods. The HCWs were instructed to complete diary cards daily, recording body temperature, contact time, personal protective equipment use and any symptoms. Surfaces in the ICU were also swabbed for influenza virus.

Result

100 HCWs attending to 6 ventilated patients using droplet precautions were recruited. No virus was detected by PCR in the nasal or hand swabs of any of the HCWs. However, two surfaces were found to be contaminated with an identical virus to the index patient (influenza B) and two HCWs were found to have seroconverted against H3N2 virus which was not the same influenza subtype as the index ICU patient (pandemic H1N1 2009).

Conclusion

The data from this pilot study indicate that there is little to no risk of transmission of influenza from an infected ICU patient to the HCWs or cleaners in the ICU with the use of routine droplet precautions in mechanically ventilated patients.